

ABSTRACT OF THE DISCLOSURE

The present invention is directed to a high speed spindle motor comprising a stator assembly including a stator having multiple conductors that create a plurality of magnetic fields when electrical current is conducted by the conductors and a body of a phase change material such as a thermoplastic substantially encapsulating the stator. A rotatable hub having a magnet connected thereto is in operable proximity to the stator. The high speed motor also includes a shaft, a bearing surrounding the shaft and one of the bearing or shaft being fixed to the stator assembly and the other of the bearing or shaft being fixed to the rotatable hub. Hard disc drives using the motor, and methods of developing and constructing the motor and hard disc drives are also disclosed.

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